UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,829	07/14/2003	Douglas B. Meyer	5681-41100	5944

35690　　　　7590　　　　02/14/2007		EXAMINER
MEYERTONS, HOOD, KIVLIN, KOWERT & GOETZEL, P.C. 700 LAVACA, SUITE 800 AUSTIN, TX 78701		ROMANO, JOHN J

ART UNIT	PAPER NUMBER
2192	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/14/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	**Applicant(s)**
Office Action Summary	10/618,829	MEYER ET AL.
	Examiner	**Art Unit**	
	John J. Romano	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *July 14th, 2003*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *July 14th, 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *10/23/2003*.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

1.   Claims **1-30** are pending in this action.

Information Disclosure Statement

2.   The Information Disclosure Statements filed on October 23rd, 2003 has been

considered.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Independent claim **15** is rejected under 35 U.S.C. 101′ because the claimed

invention is directed to non-statutory subject matter. A "carrier medium" is defined in

the specification as including transmission media or signal (see specification, page 30,

lines 25-26). A product is a tangible physical article or object, some form of matter,

which a signal is not. A signal, a form of energy, does not fall within either of the two

definitions of manufacture. Thus a signal does not fall within any of the four statutory

classes of 101. See Interim Guidelines for Examination of Patent Applications for

Patent Subject Matter Eligibility, Annex IV (c), (signed 26, October, 2005) – OG Cite:

1300 OG 142. Retrieve on

<http://www.upsto.gov/web/offices/com/sol/og/2005/week47/patgupa.htm>.

Drawings

4.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5)

because they do not include the following reference sign(s) mentioned in the

description: The specification, page 2, paragraph [0023] refers to "a service processor

113", wherein the "113" label is not included in Figure 1. Corrected drawing sheets in

compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid

abandonment of the application. Any amended replacement drawing sheet should

include all of the figures appearing on the immediate prior version of the sheet, even if

only one figure is being amended. Each drawing sheet submitted after the filing date of

an application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next

Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

        The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims **1-5, 7, 9, 10, 12, 15-21, 23, 25, 26** and **28** are rejected under 35

U.S.C. 103(a) as being unpatentable over Crowell et al., US 2004/0215440 (hereinafter

Crowell) in view of Huang et al., US 5,267,246 (hereinafter **Huang**).

In regard to claim **16**, **Crowell** discloses:

- *"A computer system comprising: a system processor configured to*

  execute instructions associated with user software; a client coupled to

  said system processor via a system interconnect; and a service

  processor coupled to said system processor and to said client via a...

  bus, wherein said service processor is configured to execute

  application software for configuring said computer system into one or

  more domains and for performing diagnostics; wherein said service

  processor is further configured to..." (E.g., see Figure 1 & paragraphs

  [0023] + [0027]), wherein a system comprising a service processor

  113, system processor(s) 112, other networked computers 146 (client)

  for configuring one or more hardware components is taught.

- *"...access an executable form of program instructions for manipulating*

  said system processor and said client from one consistent state to a

  next consistent state..." (E.g., see Figure 2 & [0043]), wherein the

  firmware is loaded 206 to configure the hardware state.

- *"...wherein said program instructions describe a sequence of one or*

  more transactions for manipulating said system processor and said

  client..." (E.g., see Figure 1 & paragraph [0022]), wherein smart

buffers may call specialized functions to capture the cause and effect

behavior (manipulate) of the actual registers of the targeted hardware,

wherein the firmware is any set of executable code designed to

interface with (e.g., read, write, modify) the hardware components.

- "...*wherein said program instructions call one or more code segments*

  that include specific information associated with said system processor

  and said client and wherein said program instructions are independent

  of said specific information..." (E.g., see Figure 2 & paragraph [0035]),

  wherein a library of behavior definitions 134 based on the hardware

  specifications 136 develop behavioral models 204 which describe at

  the bit level the effect of modifying one register (e.g., control register)

  has on another register (e.g., a corresponding status register).

- "...*and execute said executable form of said program instructions in*

  response to executing said application software." (E.g., see Figure 2 &

  paragraph [0045]), wherein the firmware code is executed to configure

  hardware (modify the registers), wherein paragraph [0025] additionally

  teaches translation and execution of the sequence of instructions.

But **Crowell** does not expressly disclose "maintenance bus" in a diagnostic

environment. However, **Huang** discloses a maintenance bus via a support processor in

order to test a system (Column 2, lines 4-15). **Crowell** and **Huang** are analogous art

because they are both concerned with the same field of endeavor, namely, testing and

configuration of a system with a service processor. Therefore, at the time the invention

was made, it would have been obvious to a person of ordinary skill in the art to combine

Huang's service processor with **Crowell's** configuration process. The motivation to do

so would have been to provide a system support adapter (SSA) between the service

processor and the main processor which functions to interrogate the system as taught

by **Huang** (E.g., see Column 2, lines 4-8).

In regard to claim **17**, the rejections of base claim **16** are incorporated.

Furthermore, **Crowell** discloses:

- *"...include one or more respective control registers, wherein said*

  respective control registers include one or more bits configured to

  control and indicate an operating state of said system processor and

  said client." (E.g., see Figure 1 & paragraph [0021]), wherein the

  firmware is any set of executable code designed to interface with (e.g.,

  read, write, modify) the hardware components corresponding to

  resisters (e.g., status, control, and results registers) in the actual

  targeted hardware.

But **Crowell** and **Huang** do not expressly disclose "each include". However, it

would have been obvious to one of ordinary skill in the art, at the time the invention was

made, to configure each and every processor included in a system that was modified or

changed in order to perform complete diagnostics.

In regard to claim **18**, the rejections of base claim **17** are incorporated.

Furthermore, **Crowell** discloses:

- "...*to read and write information within said one or more respective*

  control registers of said system processor and said client." (E.g., see

  Figure 2 & paragraph [0035]), wherein behavioral models 204 which

  describe at the bit level the effect of modifying one register (e.g.,

  control register) has on another register (e.g., a corresponding status

  register) is diagnosed by the firmware.

In regard to claim **19**, the rejections of base claim **16** are incorporated.

Furthermore, **Crowell** discloses:

- "...*include one or more state machine implementations each including*

  a plurality of states and wherein said plurality of states are effected in

  response to invocation of said one or more code segments." (E.g., see

  Figure 2 & paragraph [0035]), wherein behavioral models 204 which

  describe at the bit level the effect of modifying one register (e.g.,

  control register) has on another register (e.g., a corresponding status

  register) is diagnosed by the firmware, wherein the behavioral models

  are described in the sequence of code called in the special functions

  and attached to the smart buffers (208).

But **Crowell** and **Huang** do not expressly disclose "each include". However, it

would have been obvious to one of ordinary skill in the art, at the time the invention was

made, to configure each and every processor included in a system that was modified or

changed in order to perform complete diagnostics.

In regard to claim **20**, the rejections of base claim **16** are incorporated.

Furthermore, **Crowell** discloses:

- "... *said specific information includes control register-specific*

  information." (E.g., see Figure 2 & paragraph [0035]), wherein

  behavioral models 204 which describe at the bit level the effect of

  modifying one register (e.g., control register).

In regard to claim **21**, the rejections of base claim **20** are incorporated.

Furthermore, **Crowell** discloses:

- "... *a control register name.*" (E.g., see Figure 1 & paragraph [0035]),

  wherein chip A has a Control Register (A_REG_C).

In regard to claim **23**, the rejections of base claim **21** are incorporated.

Furthermore, **Crowell** discloses:

- "... *a control register field including one or more particular bits.*" (E.g.,

  see Figure 1 & Paragraph [0038]), wherein the firmware code 118 sets

  bit 0 of Control Register (A_REG_C:0).

In regard to claim **25**, the rejections of base claim **16** are incorporated.

Furthermore, **Crowell** discloses:

- "... *specific information associated with said system processor and said*

  client is derived from an output of a design tool, wherein said output

  corresponds to a hardware definition language representation of said

  system processor and said client." (E.g., see paragraph [0007]),

  wherein output of a design tool (VHDL) corresponds to a hardware

definition language representation of said system processor and said

client.

In regard to claim **26**, the rejections of base claim **16** are incorporated.

Furthermore, **Crowell** discloses:

- "...*said program instructions include specifying an access operation on*

a control register without defining a specific bus route for conveying

said operation." (E.g., see Figure 4A + 4B) & paragraph [0037]),

wherein an access operation on a control register without a specific

bus route is defined.

In regard to claim **28**, the rejections of base claim **16** are incorporated.

Furthermore, **Crowell** discloses:

- "...*written in a descriptive abstract programming language.*" (E.g., see

Figure 6 & Column 12, lines 16-29), wherein.

But **Crowell** and **Huang** do not expressly disclose "*not directly compilable*".

However, it would have been obvious to one of ordinary skill in the art, at the time the

invention was made, to write the general behavioral definitions in pseudo-code (not

directly compilable) as is old and well known in the art, in light of teaching of any

abstract programming language such as that taught by **Crowell** as addressed above.

In regard to claims **1-5, 7, 9, 10,** and **12**, this is a method version of the claimed

system discussed above, in claims **16, 18-21, 23, 25, 26** and **28**, respectively, wherein

all claimed limitations have also been addressed and/or cited as set forth above. For

example, see **Crowell** (paragraph [0009]), wherein a method is disclosed.

In regard to claim **15**, this is a computer readable medium version of the claimed

method discussed above, in claim **16**, wherein all claimed limitations have also been

addressed and/or cited as set forth above. For example, see **Crowell** (Figure 1)

wherein a computer readable medium is disclosed.

6.   Claims **6, 8, 11, 13, 14, 22, 24, 27, 29** and **30** are rejected under 35

U.S.C. 103(a) as being unpatentable over Crowell et al., US 2004/0215440 (hereinafter

Crowell) in view of Huang et al., US 5,267,246 (hereinafter **Huang**) and further in view

of "The Design and Evolution of C++" by Bjarne Stroustrup (hereinafter "**C++**").

In regard to claims **22**, the rejections of base claim **21** are incorporated. It would

have been obvious to one of ordinary skill in the art, at the time the invention was made

to include a string literal representation of a number evaluated as an integer value and

translate that into an ascii character representation of said integer in light of old and well

known object oriented principles and programming practices in order to achieve the

known benefits of such languages. (E.g., see **C++**, pgs 158-159). Therefore, it would

have been obvious to "...*program instructions include specifying said control register*

name using an integer arithmetic expression that is evaluated as an integer value and

translated into a character representation of said integer value." Further motivation to

combine object oriented principles with **Crowell** and **Huang's** method was suggested

by **Crowell's** disclosure of hardware modeling (E.g., see Figure 2, box 136 + 134).

In regard to claims **24** and **27**, the rejections of base claims **23** and **16** are

incorporated. Furthermore, it would have been obvious to one of ordinary skill in the art,

at the time the invention was made to store a value in a storage variable and have that

value accessible by subsequent instructions, (E.g., see **C++**, pgs 158-159). Thus, it

would have been obvious to "...*include storing a value in a storage variable during a*

transaction, wherein said value is accessible by an instruction executed subsequent to

completion of said transaction."

In regard to claim **29**, the rejections of base claim **16** are incorporated. It would

have been obvious to one of ordinary skill in the art, at the time the invention was made

to correspond different objects modeled with unique classes and unique names with an

appropriate extension appended in light of old and well known object oriented principles

and programming practices. (E.g., see **C++**, pgs 316-325). Therefore, it would have

been obvious to "...*said specific information associated with particular hardware*

components is derived from a computer information model (CIM) representation by

associating each particular hardware component with a CIM class having a CIM class

name and creating, for each CIM class, a corresponding unique type by appending

"_cim_t" to said CIM class name."

In regard to claim **30**, the rejections of base claim **16** are incorporated. It would

have been obvious to one of ordinary skill in the art, at the time the invention was made

to have different classes call the same method in light of old and well known object

oriented principles and programming practices. (E.g., see **C++**, pgs 316-325).

Therefore, it would have been obvious to include "...*a hardware function programming*

interface type is specified that corresponds to a particular partition of functionality within

a given hardware component type, wherein two identically named code segments have

a substantially same semantic effect and different implementations when called by two

different hardware function programming interfaces."

In regard to claims **6, 8, 11, 13,** and **14**, this is a method version of the claimed

system discussed above, in claims **22, 24, 27, 29** and **30**, respectively, wherein all

claimed limitations have also been addressed and/or cited as set forth above. For

example, see **Crowell** (paragraph [0009]), wherein a method is disclosed.

Conclusion

7.   The following prior art made of record and not relied upon is considered pertinent

to applicant's disclosure:

- Urs et al., Us 6,148,204, wherein method for utilizing a distributed

   location control register on multiple devices in a network is taught.

- Terry, US 7,095,718, wherein client/server jtag scan software test a

   device via scan techniques remotely.

- Powell, et al., US 2002/0183997, wherein a method for specifying the

   configuration of mixed-language simulation models is disclosed.

- Wakabayashi et al., US 2003/010477, wherein VHDL representation of

   a test bench is disclosed with manipulation of a control register via

   read and write commands via a master bus and DMA controller.

- Maciona et al., US 6,941,243, wherein a high-level descriptive

   hardware language is converted into low level testing language for

   building and testing systems.

- Becker et al., "An Engineering Environment for Hardware/Software Co-Simulation" discloses hardware/software co-simulation.

- Bauer et al., "Hardware/Software Co-Simulation in a VHDL-based Test Bench Approach" discloses calling hardware specific functions via a master controller with a hierarchy encompassing all levels of testing.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Romano whose telephone number is (571) 272-3872. The examiner can normally be reached on 8-5:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JJR

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SUPERVISORY PATENT EXAMINER